

REMARKS

This application is amended in a manner to place it in condition for allowance at the time of the next Official Action.

**Status of the Claims**

Claims 1, 3-6, 21 and 22 are amended.

Claim 1 is now directed to a milk device wherein the teat receiving flexible sleeve includes a first portion comprising Thermoplastic Vulcanisate (TPV) of claim 2.

Claims 3-5 are amended to depend from claim 1.

Claim 6 is amended to be an independent claim similar to claim 1, but the milking device the teat receiving flexible sleeve includes a first portion comprising a TPE and a further portion comprising a TPE which is different from the TPE in the first portion.

Claim 21 is amended as an independent claim, now including the features of claim 1 and claim 23, where the teat receiving flexible sleeve of the milking device includes a first portion comprising a TPE.

Claim 22 is amended to now depend from claim 1, and includes the features of claim 21.

Claims 2 and 23 are cancelled.

Claims 1, 3-12, 17-22 and 28-31 remain in this application.

**Claim Rejections-35 USC §112**

Claims 1, 17-23 and 29-31 were rejected under 35 U.S.C. §112, second paragraph, for being indefinite. This rejection is respectfully traversed for the reasons below.

Claims 2-12 and 28 were rejected for only relating to thermo-plastic elastomers (TPE) or vinyl TPE, and not the plasticized PVC embodiment. The independent claims are now directed to thermoplastic vulcanisate (TPV) and TPE.

Claim 1 was rejected for various unclear expressions. These expressions are no longer present in claim 1, and have not been added to new independent claims 6 and 21. For example, the expression "as defined in ISO 18064" was recited to explain how one identifies a TPE, but as this expression is already present in the specification, the meaning of TPE should be understood when read in light of the description in the specification.

Therefore, the claims are believed to be definite, and withdrawal of the rejection is respectfully requested.

**Claim Rejections-35 USC §103**

Claims 1, 17-23 and 29-31 were rejected under 35 U.S.C. §103(a) as being unpatentable over MILLS U.S. 4,572,106 (MILLS). This rejection is respectfully traversed for the reasons below.

MILLS was offered for teaching a milking device with a teat receiving flexible sleeve having at least a portion comprising polyvinyl chloride, or plasticized PVC.

With respect to independent claim 1, as well as dependent claims 18-20 and 29-31, the Official Action recognized that MILLS fails to disclose the claimed hardness, Young's modulus, tensile strength, and minimum elongation without breakage. The position of the Official Action that it would have been obvious discovering the optimum or workable ranges by routine skill in the art.

However, the three independent claims 1, 6 and 21 as presently recited would not have been discovered based on the teachings of MILLS.

The milking device of MILLS does not comprise a teat receiving flexible sleeve, adapted to be positioned on/over a teat, having at least a first portion including a thermoplastic vulcanisate (TPV) comprising a thermoplastic continuous phase and a cross-linked rubber discontinuous phase, as recited in claim 1. MILLS also fails to disclose or suggest a first portion of the sleeve comprising thermo-plastic elastomers (TPE), as recited in claim 6.

With respect to amended claim 21, which is now includes the features of claim 1 and 23, while the position of the Official Action was that MILLS discloses a head portion, sleeve, separate milk tube connectable with the sleeve, there is no suggestion of a teat receiving flexible sleeve having at least a first portion including thermo-plastic elastomers (TPE).

Indeed, it would not have been obvious to even approach the claimed invention based on the teachings of MILLS.

As disclosed in the present specification, the definition of a thermo-plastic elastomer is a material consisting of a two phase system, one hard phase and one soft phase. The two phases can result from either a block copolymer phase that separates and the homogeneous blocks accumulates or from a discontinuous soft phase that forms within a continuous hard phase. It is important to note that these phases are constituted by polymers, not additives of any kind. As is understood by one of ordinary skill in the art, thermoplastic material gets its properties from either the blocks in a block copolymer or from the two (or more) phase separated polymers.

Thus, the plasticized PVC utilized by MILLS does not qualify as a TPE, or TPV.

PVC is a material consisting of only one monomer with no soft or elastic properties at normal usage temperature,  $T_g$  90°C. The addition of plasticizers giving the material softer properties does not turn PVC into in a TPE. If that were true, any polymeric material with a  $T_g$  or  $T_m$  above usage temperature could be classified as a TPE through the addition of plasticizers, but this not true. A TPE, as a person skilled in the art knows, gets its mechanical properties from the inherent polymeric properties.

Therefore, MILLS does not render obvious the claims, and withdrawal of the rejection is respectfully requested.

**Conclusion**

In view of the amendment to the claims and the foregoing remarks, this application is in condition for allowance at the time of the next Official Action. Allowance and passage to issue on that basis is respectfully requested.

Should there be any matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

The Commissioner is hereby authorized in this, concurrent, and future submissions, to charge any deficiency or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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